

**REMARKS**

Claims 1-12 remain pending in this application with claims 1-5, 9 and 12 being amended by this response.

**Rejection of claims 1-12 under 35 U.S.C. 112, second paragraph**

Claims 1-12 stand rejected under 35 USC 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which the applicant regards as the invention. Claims 1-5 and 9 have been amended in accordance with the comments of the Examiner to more clearly recite the scope of the present invention.

To more clearly claim the present invention, as suggested by the Examiner, the term “radiating element of the travelling wave type” of Claim 1 has been replaced by “travelling wave antenna”. Moreover, it should be understood that the term “longitudinal radiation” is a general term for a helix or a rod antenna wherein the axis of radiation corresponds to the axis of the antenna, as explained page 2, first paragraph of the inventive application.

Additionally, claims 2-4 and 9 have been amended in accordance with the suggestions of the Examiner to replace the term “helical device” with “helix” and in claim 5 “of printed type” has been replaced by “made in printed technology” as explained on page 5, last paragraph of the specification. Accordingly, it is submitted that the rejection under 35 USC 112, second paragraph has been satisfied and Withdrawal of the rejection is respectfully requested.

**Rejection of claims 1-7, 9 and 12 under 35 U.S.C. 103(a)**

Claims 1-7, 9 and 12 stand rejected under 35 USC § 103(a) as being unpatentable over Fuchs et al. (6,329,954). In response the Applicant offers the following remarks.

The present invention relates to a source-antenna comprising an array of  $n$  radiating elements formed of travelling wave antennas operating in a first frequency band and an element with longitudinal radiation operating in a second frequency band and situated at the centre of the array. The array of  $n$  radiating elements and the element with longitudinal radiation have a substantially common phase centre. As the present claimed invention relates to a source antenna for receiving and transmitting electromagnetic waves from a satellite, i.e., nearly in a same direction, the structure (common phase centre) is such that the radiating diagrams of the longitudinal radiation element and of the array of  $n$  travelling wave antennas are nearly similar to obtain an optimal lighting of the reflector.

Fuchs et al. describe a system for combining a satellite antenna and a terrestrial antenna. The satellite antenna is constituted by a cross dipole or a helix radiating a circular polarization in the direction of the satellite while the terrestrial antenna is constituted by monopoles radiating in a horizontal plane for terrestrial transmission/reception. In this case, the radiating diagrams for the satellite and terrestrial antennas are completely different as shown in Figures 10-15.

Fuchs et al. is a system with two different antennas on the same substrate. In contradistinction, the present claimed invention relates to a single source antenna, namely a satellite antenna. Furthermore, the present claimed invention operates in two frequencies, namely **first frequency** and **second frequency**, as claimed in Claim 1, while Fuchs et al. operates in the same frequency band as described in column 3 lines 19-20. Fuchs et al.

neither disclose nor suggest operation in two frequencies as in the present claimed invention.

Moreover, the elements claimed in the Claim 1 of the present invention are all **elements with longitudinal radiation**. Such is neither disclosed nor suggested in Fuchs et al., which uses monopoles having a radiation in a plane perpendicular to the monopole axis.

It is therefore submitted that Claim 1 as amended, particularly that the present claimed invention operates in two frequencies, the **first frequency** and **second frequency** and the elements of the present claimed invention are all **elements with longitudinal radiation**, is not anticipated by Fuchs et al. In view of the above remarks and amendments to the claims it is respectfully submitted that this rejection is satisfied. Withdrawal of the rejection under 35 U.S.C. 103(a) of the independent Claim 1 as amended is thus respectfully requested. Additionally, it is further respectfully submitted that as Claims 2-7, 9 and 12 are dependent on Claim 1, these claims are also patentable for the same reasons as discussed above and the withdrawal of the rejection of claims 2-7, 9 and 12 is also respectfully requested.

**Rejection of claims 8,10, and 11 under 35 U.S.C. 103(a)**

Claims 8, 10, and 11 stand rejected under 35 USC § 103(a) as being unpatentable over Fuchs et al. (6,329,954) and further in view of Spencer (5,757,323) and Chen (6,396,440). In response to the rejection of the Examiner, Applicants offers the following remarks.

Spencer discloses an antenna arrangement including a microstrip patch or slot radiating element coupled to a dielectric rod antenna by a tapered tubular dielectric guide integrally formed with the rod. An array or radiating elements may be formed on a

common substrate. The dielectric guide antenna may be arranged to direct the energy radiated from these elements to a secondary antenna element.

Chen discloses a phased array antenna apparatus. The apparatus includes a plurality of radiation elements, a power supply, a power distributor, a feed probe, a plurality of electromagnetic coupling units and a plurality of phase shifters. The radiation units are aligned and arranged to be electromagnetically driven. The feed probe is arranged on one of the conductive plates of the power distributor to radiate an electromagnetic wave into the radial waveguide. The electromagnetic coupling units are arranged on the other conductive plate of the power distributor to extract the electromagnetic wave radiated from the feed probe and propagating through the radial waveguide by electromagnetic coupling. The phase shifters control a phase of the electromagnetic coupling units and supply the electromagnetic wave to the radiation elements.

It is submitted, as argued above, that Claim 1 as amended, particularly that the present claimed invention operates in two frequencies, the **first frequency** and **second frequency** and the elements of the present claimed invention are all **elements with longitudinal radiation**, is not anticipated by Fuchs et al. Similarly to Fuchs et al., neither Spencer nor Chen disclose or suggest operation in two frequencies, the **first frequency** and **second frequency** and the elements all being **elements with longitudinal radiation** as in the present claimed invention.

It is further submitted that since Claim 11 depends from Claim 8, which in turn depends from Claim 1 and similarly Claim 10 depends from Claim 7, which in turn depends from Claim 1, claims 8, 10 and 11 each include the limitations of claim 1. It follows that from the fact Spencer and Chen were not cited by the Examiner in reference to independent Claim 1 and since Claim 1 is not anticipated by Fuchs et al. and the fact that Claims 8 directly and Claims 10 and 11 indirectly, are dependent on the Claim 1 that

Claims 8, 10, and 11 are also not anticipated by Fuchs et al. and therefore not by Fuchs et al. in view of Spencer, Chen or any combination thereof.

In view of the above remarks and amendments to the claims it is respectfully submitted that this rejection is satisfied. Withdrawal of the rejection under 35 U.S.C. 103(a) of the independent Claim 1 as amended is thus respectfully requested. Additionally, it is further respectfully submitted that as Claims 2-12 are dependent on Claim 1, these claims are also patentable for the same reasons as discussed above and the withdrawal of the rejection of claims 2-12 is also respectfully requested.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

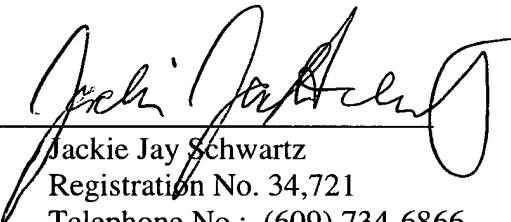
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No fee is believed due. However, if a fee is due, please charge the additional fee to  
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Respectfully submitted,  
Patrice Hirtzlin et al.

By



Jackie Jay Schwartz  
Registration No. 34,721  
Telephone No.: (609) 734-6866

Patent Operations  
THOMSON multimedia Licensing Inc.  
P.O. Box 5312  
Princeton, New Jersey 08543-5312  
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